MULTIMEDIA UNIVERSITY ®

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016

PCA0016 – COMPUTER APPLICATIONS AND PROGRAMMING

(Foundation in Engineering)

4 MARCH 2016
3:00 PM – 5:00 PM
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **SEVEN** pages (excluding the cover page) with **THREE** Sections only.

2. Answer **ALL** questions in **Section A, B** and **C**.

3. Please mark the answers for **Section A and Section B** on the **OMR form** provided.

4. Please write the answers for **Section C** in the **Answer Booklet** provided.

SECTION A: MULTIPLE CHOICE [25 MARKS]

Instructions: Answer **ALL** questions in this section. Shade your answers on the **OMR** sheet.

1. Monthly sales report of a retail store is an example of ____.
   A. data
   B. input
   C. knowledge
   D. information

2. ____ is a collection of unprocessed items, which can include text, numbers, images, audio, and video.
   A. Data
   B. Output
   C. Information
   D. Input

3. Some people refer to the series of input, process, output, and storage activities of a computer as the ____ processing cycle.
   A. data
   B. input
   C. output
   D. information

4. The ____ is the electronic component that interprets and carries out the basic instructions that operate the computer.
   A. motherboard
   B. control unit
   C. processor
   D. arithmetic unit

5. Nearly all keyboards have a(n) ____ that switches between two states each time a user presses the key.
   A. arrow key
   B. toggle key
   C. function key
   D. numeric key

6. A hard disk provides much ____.
   A. less storage capacity than a CD
   B. less storage capacity than a USB flash drive
   C. greater storage capacity than a CD but less than a USB flash drive
   D. greater storage capacity than a USB flash drive

Continued...

7. A(n) ____ device is a hardware component that enables a computer to send (transmit) and receive data, instructions, and information to and from one or more computers.
   A. reading
   B. transmitting
   C. communications
   D. reception

8. A computing phrase — known as ____ — points out that the accuracy of a computer's output depends on the accuracy of the input.
   A. what you see is what you get
   B. garbage in, garbage out
   C. nothing ventured, nothing gained
   D. better safe than sorry

9 When a computer connects to a network, the computer is ____.
   A. linked
   B. inline
   C. resourced
   D. online

10. On a network, the major differences between the server and the client computers are that the server ordinarily has ____.
   A. less power, less storage space, and decreased communication capabilities
   B. less power, less storage space, but expanded communication capabilities
   C. more power, more storage space, but decreased communication capabilities
   D. more power, more storage space, and expanded communication capabilities

11. Which of the following is the last step in the boot process?
   A. The operating system is loaded into RAM
   B. The BIOS checks that all devices are in place
   C. The BIOS is activated by turning the computer
   D. Configuring and customization setting of the desktop

12. Two categories of software are ____.
   A. system software and utility programs
   B. operating system and system software
   C. utility programs and operating systems
   D. system software and application software

13. Which of the following is NOT true of mobile devices?
   A. Mobile devices usually have disk drives.
   B. Because of their reduced size, the screens on mobile devices are small, but usually are in color
   C. Some mobile devices are Internet-enabled, meaning they can be connected to the Internet wirelessly.
   D. You often can connect a mobile device to a personal computer to exchange information between the computer and the mobile device.

14. Most major corporations use ____ for business activities.

Continued...

A. embedded computers
B. supercomputers
C. mainframes
D. mobile devices

15. The _____ control structure executes an instruction one after another until the end of the execution state.
A. case
B. do-while
C. sequence
D. selection

16. A file is ____.
A. a horizontal space that contains a window's title
B. an on-screen work area that has a graphical user interface
C. a named collection of stored data, instructions, or information
D. an instruction that causes a program to perform a specific action

17. The ____ of the document window usually displays a document's file name.
A. title bar
B. menu bar
C. status bar
D. scroll bar

18. One gigahertz (GHz) equals one ____ ticks of the system clock per second.
A. thousand
B. million
C. billion
D. trillion

19. ____ allows users to send graphics, pictures, video clips, and sound files, as well as short text messages to another smart phone or mobile device.
A. Multimedia Messaging Services (MMS)
B. Short Messaging System (SMS)
C. eBuddy XMS
D. Telephone Messaging System (TMS)

20. On a network, the ____ are the computers and mobile devices on the network that rely on the server for its resources.
A. nodes
B. modes
C. clients
D. paths

21. Real time streaming protocol is used____
A. to control streaming media servers.
B. for establishing and controlling media sessions between endpoints.
C. to provide real time control of playback of media files from the server.
D. all of the above.

Continued...

22. Which of the following statements is true?
    A. MIDI files are generally larger than WAV files.
    B. Audio and video are the same.
    C. Nearly all 5-minute movie clips are below 1M in size
    D. Video files are generally much larger than audio files

23. Which of the following is the best definition for Virtual Reality?
    A. Any computer game involving graphics.
    B. The process of coding in another dimension.
    C. A simulator which requires special eye glasses.
    D. A 3D simulation of a real or imagined environment using computers.

24. A smaller version of an image is called a _____.
    A. clipart
    B. bitmap
    C. thumbnail
    D. portable network graphic

25. What is the only language that the computer understands directly?
    A. Machine language
    B. Assembler language
    C. High level language
    D. Beginners All-purpose Symbolic Instruction Code (BASIC)

Continued...

SECTION B: TRUE OR FALSE [15 MARKS]

Instructions: Shade your answers on the OMR form provided. Shade **A for True** and **B for False.**

26. 1 MB = 1,024 kilobytes.

27. The difference between memory and storage is that memory is permanent and storage is temporary.

28. Pixel per inch (ppi) is normally used to represent the resolution of a display for smartphone.

29. A term associated with the comparison of processing speeds of different computer system is million instructions per seconds (MIPS).

30. The control unit of a microprocessor performs arithmetic and logic function.

31. A disadvantage of the laser printer is that the output is of a lower quality compared to dot matrix printer.

32. In most computers, the CPU, the device drives, memory expansion slots and active components are mounted on a single board called the breadboard.

33. System software is also called operating system.

34. The essential difference between an operating system like Linux and one like Windows is that any programmer can modify Linux code which is not permitted with Windows.

35. In a network, actual data throughput is always higher than the data transfer rate.

36. A syntax error is caused by not following the strict, precise set of rules for a specific programming language.

37. Machine language is machine dependent and difficult to program.

38. The field of computer science known as artificial intelligence attempts to free humans from decision-making tasks.

39. An essential ingredient for effective multimedia presentations incorporates user participation or interactivity.

40. Paint programs and image editors are used for creating and editing vector graphics.

Continued...

SECTION C: SHORT ANSWER [60 MARKS]

Instructions: Answer **ALL** questions in this section. Write your answers in the Answer Booklet.

QUESTION 1 [20 marks]

a. Define what is a computer?

[4 marks]

b. You are deciding to buy a storage device, either an external hard disk or a thumb drive. List down TWO (2) advantages of choosing the external hard disk over the thumb drive. Also list down TWO (2) advantages of choosing the thumb drive over the external hard disk.

[4 marks]

c. Online storages are getting popular nowadays to store files on the internet. What are the TWO (2) advantages and TWO (2) disadvantages of using these online storages.

[4 marks]

d. Give TWO (2) examples of any online storage sites with their URLs.

[2 marks]

e. Sketch and label a machine cycle, the process that the processor has to go through during execution of an instruction.

[6 marks]

QUESTION 2 [20 marks]

a. What are the roles of a user interface?

[3 marks]

b. What are the THREE (3) types of user interface? Out of these three, which one is commonly used?

[4 marks]

c. Sketch and label the THREE (3) network topologies when designing a network.

[6 marks]

d. Briefly explain THREE (3) utility tools that can be used to evaluate the reliability of your computer system.

[6 marks]

e. List down TWO (2) operating systems available on smartphones.

[1 mark]

Continued...

QUESTION 3 [20 marks]

a. In programming, variables are used to store values during computation. List down TWO (2) rules that you need to follow in choosing a variable name.

[1 mark]

b. Write a program (code segment) to list down all ODD numbers from 1 to 10 onto a list box called lstOddNumbers by using the for-next loop.

[6 marks]

c. Write a program (code segment) attached to a button in Visual Basic to determine if a person is underweight, normal or overweight based on the Body Mass Index (BMI). The weight and height of a person are entered in text boxes named txtWeight and txtHeight, respectively, and the output message is placed in a label named lblBMIResult. Your program should check for valid inputs. Formula for calculating the BMI is

$$BMI = \frac{weight}{height^2}$$

where weight is in kg and height is in meters.

BMI	Status
BMI < 19	Underweight
19 ≤ BMI ≤ 25	Normal
BMI > 25	Overweight

[13 marks]

End of Paper